New orders in construction QMI

Quality and Methodology Information for new orders in construction, detailing the strengths and limitations of the data, methods used, and data uses and users. These data are published quarterly and are collected and supplied by Barbour ABI. These data are a forward-looking snapshot of both current and potential future activity in the construction sector in Great Britain.

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1 . Output information

National Statistic	
Survey name	New orders in the construction industry
Frequency	Quarterly
How compiled	Administrative data
Geographic coverage	Great Britain
Sample size	N/A
Last revised	9 August 2019

2 . About this Quality and Methodology Information report

This quality and methodology information (QMI) report contains information on the quality characteristics of the data (including the five European Statistical System dimensions of quality) as well as the methods used to create it.

The information is this report will help you to:

- understand the strengths and limitations of the data
- learn about existing uses and users of the data
- reduce the risk of misusing data
- help you to decide suitable uses for the data
- understand the methods used to create the data

3 . Important points

- Data are sourced from Barbour ABI who web scrape planning application data from all local authorities in England, Scotland and Wales; this method allows identification of planning applications as soon as they are published, while projects outside the planning application process are captured via investigations from Barbour's in-house team of researchers.

- These data are then validated firstly by Barbour ABI and supplied to the Office for National Statistics (ONS), who also further validate, and quality assure the data before new orders in the construction industry estimates are published.

- New orders in the construction industry are published by ONS every quarter and allow a more forward-looking snapshot of both current confidence and potential future activity in the construction industry in Great Britain.

- The current method to compile new orders data has been used since Quarter 2 (Apr to June) 2013; however, a longer time series going back to the 1958 is published under different methodologies.

- As of March 7 2019 the statistics are now re-designated as National Statistics.

4 . Quality summary

Overview

The new orders in construction dataset measures the value and volume of new orders of main contractors by type of work and region. The main users of these data are industry analysts of the UK construction industry, trade associations and other government departments.

The data are primarily sourced from local authorities in England, Scotland and Wales by a private company called Barbour ABI. These local authorities are monitored daily to identify planning applications as soon as they are published. Additional contract sources are also monitored to collect details of public sector tenders and new orders as they are placed. Barbour ABI's telephone research team speak to a minimum of 10,000 contractors every year about work they are bidding for, or are already actively involved in.

From Quarter 2 (Apr to June) 2013, we stopped collecting data using the quarterly survey of contracts and new orders (also known as the New Orders Survey). The first published estimates using the Barbour ABI data took place in September 2013. Estimates of new orders in current and constant prices and on a seasonally and non-seasonally adjusted basis are published in the Construction output and new orders statistical bulletin. This also includes supporting commentary around the latest figures. The new orders dataset is also published every quarter alongside the statistical bulletin.

Uses and users

The data published in the Construction output in Great Britain and new orders statistical bulletin are used by a variety of different stakeholders. These include:

- industry analysts requiring estimates of the value of new orders in the construction industry in Great Britain

- trade associations making comparisons and forecasting trends in the construction industry

- other government departments in helping to inform policies, including the Department for Business, Energy and Industrial Strategy (BEIS), Bank of England (BoE), HM Treasury (HMT) and the Ministry of Housing, Communities and Local Government (MHCLG)

Strengths and limitations

Strengths of the new orders data

All planned projects are collected and validated by Barbour ABI. This allows a near census of all planned projects greater than £100,000 in value or projects with two or more houses for residential schemes to be used within the dataset. This allows a better coverage of project-level data than could previously be obtained when the data were collected via the Office for National Statistics (ONS) survey prior to Quarter 2 (Apr to June) 2013. An additional factor of the change in data source was the improved sub-national granularity the Barbour ABI dataset provides in comparison with the survey data.

Projects outside of the planning process are included via follow-up telephone phone calls by Barbour ABI's in-house team of researchers.

Projects are researched by Barbour ABI's UK-based researchers with expert knowledge of the UK construction industry and good contacts with the main construction contractors within the sector. This allows individual projects to be tracked from order placed to completion.

All projects are coded to the ONS taxonomy for the 23 types of work (for the full taxonomy, please see Annex 1).

The detailed level of data available from Barbour ABI allows the output data to be modelled to a subnational and sub-sector level, which would otherwise not be possible.

While we are reliant on an administrative data source to produce these statistics, it is widely accepted that Barbour ABI are industry experts in this type of data collection.

Limitations of the new orders data

Projects costing less than £100,000 are not included in the new orders dataset.

While revisions due to changes in seasonal adjustment factors can be seen in the constant price, seasonally adjusted data, no revisions are applied to the raw new orders dataset supplied by Barbour ABI. This is because the data are a point-in-time estimate of new orders within the industry. It should be noted that projects can change value for legitimate reasons from their initial valuation. These reasons could include changes in specification of projects as they are being constructed, initial under or over estimation of project costs when the order was first placed or a change in the contractor undertaking the project.

Only projects in Great Britain are captured in the dataset. Therefore, Northern Ireland projects are not included.

A detailed comparison of the difference between new orders data and construction output is described in the article Construction statistics development: Understanding the gap between construction output and new orders, published on 30 October 2018.

For further information as to the assessment of Barbour ABI suitability in use of ONS construction statistics, please see the Quality assurance of administrative data used in construction statistics.

Recent improvements

Over the recent period there have been numerous improvements to the new orders data.

The first is the change of data source from ONS survey to administrative data supplied by Barbour ABI. More information can be found in the Announcement of Changes to New Orders in the Construction Industry article published in 2013. The improvement in the variables collected in the new orders dataset since this change has also resulted in further improvements in the model to estimate subnational and subsector work. For further information, please see the Construction development: improvements to regional and subsector level estimates article published on 4 June 2018.

The second change is clarity over how new orders data should be interpreted and used. An article has been published highlighting the difference between new orders and output data in the ONS construction data. The article Construction statistics development: Understanding the gap between construction output and new orders, published on 30 October 2018, describes the purpose of both datasets and explains the reasons as to why the all new work output series can be different to the all work new orders series.

5 . Quality characteristics

Relevance

New orders data are regularly assessed as part of an ongoing quality assurance programme from the Office for Statistics Regulation (OSR). Previous consultation details are captured in this section.

In 2013, a consultation asked for input from users to understand the datasets produced for new orders in the construction industry. The results of the consultation are available.

The statistics have also been assessed against the standard set out in the statutory Code of Practice for Statistics . The first UK Statistics Authority assessment to assess the suitability of the output was conducted in 2012. The findings from the assessment can be found within assessment report 170.

The next UK Statistics Authority assessment of the relevance of the statistics was assessed in 2014. The findings from the assessment can be found within assessment report 280.

New orders statistics have recently been re-assessed by OSR. This consultation also covers the Office for National Statistics' (ONS's) Construction Output and Construction Output Price Indices. The public consultation closed for responses as of December 2017. As a result of the work programme to develop and improve the statistics as of March 7 2019 the statistics have been re-designated as National Statistics status.

All issues relating to the collection and dissemination of new orders in construction industry statistics are discussed with users via two separate forums:

- the Consultative Committee on Construction Industry Statistics (CCCIS) – this is a joint forum that meets biannually and consists of members of the industry, academics, the Department for Business, Energy and Industrial Strategy (BEIS) and ONS
- the Construction Statistics Steering Group – this is a group of other government departments, industry experts and academics who provide comment and input into recent development work on the outputs and statistical products; due to the nature of data being discussed, all attendees are required to sign a confidentiality declaration to ensure data are not discussed and disclosed outside of this forum

Reliability

Assessing the difference between the first published estimate and the final revised figure provides an indication of reliability. While the current price, non-seasonally adjusted series supplied by Barbour ABI is unrevised period-on-period, it is possible to see revisions in the constant price, seasonally adjusted series due to revisions in the seasonal adjustment.

More information on new orders in the construction industry revisions are published each quarter in the statistical bulletin in the form of revisions triangles for the quarter-on-quarter growth rates.

Output quality

Whilst these statistics do not adhere to any European legislation, so comparability across countries is not possible, it is worthwhile to note that new orders data have been assessed against the UK Statistics Authority guidance for quality assurance of administrative data. The guidance for scoring and the actual scores achieved against these criteria can be found within Tables 1 and 2 within the link. Using this guidance an A1 score was rated against the criteria, with the main reasoning being "the risk of quality concern and public interest profile has been set as "low" due to the small contribution that new orders in construction statistics feed into the index of construction output (less than 0.01%)."

Coherence and comparability

To understand the comparability of new orders data it is worthwhile to understand the history of the data and discontinuities in terms of the data collection. The new orders survey began in 1955, with the Board of Trade (later the Department for Trade and Industry (DTI)). Responsibility later transferred to the Department for Business, Enterprise and Regulatory Reform (BERR) before its amalgamation with the Department for Innovation, Universities and Skills (DIUS) to create the Department for Business, Innovation and Skills (BIS), now the Department for Business, Energy and Industrial Strategy (BEIS).

Survey responsibility was transferred to Office for National Statistics (ONS) in March 2008. The subsequent redevelopment of the new orders statistics has meant that a revised back series of data at sector level to 1958 and at subnational and sub-sector level to 1985 has been produced. These are available in the new orders dataset. For further information as to the work undertaken by ONS when the statistics transferred to us, please see this article Development of construction statistics (PDF, 135KB) published in March 2010.

There are further discontinuities at the disaggregated level between Quarter 1 (Jan to Mar) and Quarter 2 (Apr to June) 2013 caused by the change in source data. Statistical tests carried out by ONS have proven the Barbour ABI data to be cumulatively comparable with the previous survey data, although short-term discontinuities have been accepted due to the increase in coverage from the new data source and the resultant increase in quality. There are no strategies in place to create a back series prior to Quarter 2 2013 based on data received by Barbour ABI.

As noted in the Recent improvements section, the Announcement of Changes to New Orders in the Construction Industry article further explains the change of data source in 2013 from the ONS survey to the administrative data supplied by Barbour ABI.

Coherence with construction output data

Since the ONS survey ceased being collected in 2013, there is no alternative ONS data source to act as a comparable data source for new orders in the construction industry. However, new orders are often interpreted by users as a good indicator of the future construction output data. While this is a sound assumption, it is advised that new orders are not used in this manner for a variety of reasons. Differences between the new orders and output data are further explored in Construction statistics development: Understanding the gap between construction output and new orders, published on 30 October 2018 and are detailed in this section.

There is a difference in coverage between new orders and output data. All projects costing under £100,000 or a single residential property are not included in the new orders dataset, whereas, if sampled, would be included in the monthly construction output data. It should also be noted that whilst grossing weights are applied to the units in the monthly output sample to provide full estimates for the overall population of construction businesses, no weighting is applied to the new orders dataset to account for this undercoverage. Changes in specification (either projects adding in additional project requirements or downsizing the specification from initial estimations) can lead to overspend or underspend on budgets, which can mean a discrepancy between the initial estimate and later estimates of the new order. These later valuations would be the value, if sampled, that would be included in the monthly output data.

There is also difference in concepts and definitions. In the monthly output survey, contributors are asked to provide information on the value of work carried out in the reference period, whereas Barbour ABI ask for a valuation of a new project. While these are similar concepts, it is possible that differences in the valuation process could occur here. This could be the inclusion of other costs outside of the pure construction costs.

New order contracts may also be cancelled after the initial order. As a result, it is possible to see some projects in the new orders dataset that will not be transferred into the output data due to cancellation. This could also be dependent upon the current economic climate, where in a downturn, more projects are likely to be cancelled as businesses struggle to finance and raise capital to fund new projects.

Timeliness and punctuality

Results produced from the Barbour ABI dataset are published quarterly, in the third month after the quarter end.

The data are published each quarter in the Construction output and new orders statistical bulletin. To accompany the bulletin, a full set of estimates are available in MS Excel format in the New orders dataset. Longer time series of current price (to 1958) non-seasonally adjusted and constant price seasonally adjusted (to 1964) are also available.

For more details on related releases, the GOV.UK release calendar is available online and provides 12 months' notice of release dates. If there are any changes to the pre-announced release schedule, public attention will be drawn to the change alongside full explanation of the reasoning behind it, as set out in the Code of Practice for Statistics. This itself has been recently updated, with a greater focus on statistical context and recommended usage.

Access to data at the individual business and project level is restricted. The confidentiality of the data is legally enforced by the Statistics of Trade Act 1947 in Great Britain and by the Statistics of Trade and Employment (NI) Order 1988 in Northern Ireland.

Accessibility and clarity

Our recommended format for accessible content is a combination of HTML web pages for narrative, charts and graphs, with data being provided in usable formats such as CVS, XML and Excel. Our website also offers users the option to download the narrative in PDF format. In some instances, other software may be used or may be available on request. Available formats for content published on our website, but not produced by us, or referenced on our website but stored elsewhere, may vary.

For information regarding conditions of access to data, please refer to the following:

- terms and conditions
- access to microdata via the Secure Researcher Service
- accessibility
- legislation on data

Why you can trust our data

ONS is the UK's largest independent producer of statistics and is its national statistics institute. The Data Policies and Information Charter, available on our website, detail how data are collected, secured and used in the publication of statistics. We treat the data that we hold with respect, keeping it secure and confidential, and we use statistical methods that are professional, ethical and transparent. You can find out more about our data policies.

The new orders in construction industry has National Statistics status, designated by OSR in accordance with the Statistics and Registration Service Act 2007.

6 . Methods

Coverage

Current price data are collected by Barbour ABI using client-side research. This is carried out through a mixture of both planning applications and supplementary telephone conversations to track individual projects.

This is carried out to identify future planned projects funded by local authorities, government departments, deregulated industry and the largest property owners in the private sector. This allows a near census of all new projects ordered in the quarter to be included.

Once projects have been identified and entered into Barbour ABI's in-house database, projects are separated into:

- schemes worth more than £100,000 for non-residential projects
- two houses or more for residential schemes

All projects are coded and categorised in accordance with this split so that different types of work taking place can be identified. Barbour ABI has mapped its in-house categorisation to the Office for National Statistics (ONS) taxonomy for 23 types of work, along with a subnational region where the project is taking place (see Annex 1 for a full list of our taxonomy and regional breakdown).

All schemes worth more than £100,000 (non-residential) or for two or more houses (residential) are then passed to Barbour ABI's in-house telephone research team to enable data gathering. Barbour ABI's researchers make approximately 1 million in-depth telephone calls per year to information providers and contacts.

Disaggregated series are quality assured and the current price data, non-seasonally adjusted are transmitted securely to ONS for continued processing within the ONS processing systems.

Data collection

Data are collected via Barbour ABI's in-house telephone research team. This team use their knowledge and expertise within the industry to query and validate data associated to individual projects. This validation is done mainly through relationships with the main construction industry contractors and the tracking of major tender portals (for example, the Official Journal of the European Union tenders) as well as the planning authorities and local councils. It should also be noted that press and media channels are monitored daily to gather information on any project announcements. Barbour ABI also have close links to media services within the construction industry.

While there is no legal obligation and contractors are not paid for the data, these data are willingly supplied to Barbour ABI.

Measured variables

The main variables supplied by Barbour ABI to ONS within the new orders dataset each quarter are:

- unique project ID
- sub-national region
- ONS mapped sector (could be mixed if more than one sector)
- project title
- value of the new order split by ONS mapped sector
- marker to denote public or private new order or mixture of both sectors with values
- estimated start date of project
- estimated finish date of project
- estimated duration of project
- project address information
- contractor information and contact details

By using the information supplied by Barbour ABI it is then possible to aggregate the value of these new orders each quarter to produce the estimates. These data are published within Tables 1 to 4 and 7 to 9 in the new orders dataset. These variables also allow us to publish sub-national and sub-sector level estimates using the actual project level data as part of the new orders dataset in Tables 5 to 6. For a full description of the tables published as part of the new orders dataset, please see Table 1 in the How we disseminate data section.

Deflation

The quarterly Construction Output Price Indices (OPIs) are used to deflate the current price new orders data to derive constant price estimates of new orders in the construction industry. This is undertaken to remove the effects of changes in prices within the current price series. Responsibility for these indices transferred to ONS on 1 April 2015 from the Department for Business, Energy and Industrial Strategy (BEIS) and as part of this, a full development programme of work was undertaken in conjunction with stakeholders and user consultation to ensure their suitability within the output.

Information about the methods used to compile the interim construction price index can be found in the first article published in June 2015, as well as the main strengths and limitations of this interim solution.

For further information about improvements since made to Construction Output Price Indices, please see the Construction Output Price Indices Quality and Methodology Information report and Section 5 of the impact of improvements to construction statistics article, published on 27 September 2017. Because of these further improvements, the indices are no longer considered an interim solution.

Seasonal adjustment

The constant price series is seasonally adjusted using a seasonal adjustment software tool called X-13-ARIMA-SEATS. This allows the production of constant price, seasonally adjusted (KPSA) estimates. The current base year is set to 2005, therefore, the constant price series is in 2005 prices.

How we quality assure the data

Data are quality assured by Barbour ABI throughout the processing and analysis processes through regular consistency checks, investigation of anomalies and reviewing data sources. Once the data have been securely supplied to ONS, they are transferred into a pre-prepared Excel spreadsheet where a macro file is run to convert the data into a format that can be run on our internal software system. This system then incorporates the statistical processes of deflation and seasonal adjustment.

Once the data have been processed through the internal software, growth rates and trend in the series are checked for anomalies. The data are supplied with detailed briefing information from Barbour ABI; using this and any trends picked up in the data, further questions are sent to Barbour ABI for further quality assurance. It is also possible for ONS to look up individual projects to understand projects driving top-level aggregates as each project has a unique ID in the dataset, which can then be investigated further in Barbour ABI's evolution database.

External stakeholders, such as other government departments, also have regular opportunities to analyse the data and share feedback with ONS colleagues.

The external forums that are in place where the data can be quality assured and queried are the Construction Statistics Steering Group and the Consultative Committee on Construction Industry Statistics (CCCIS).

How we disseminate the data

New orders data are disseminated primarily through publication of statistical bulletins and ad hoc releases on our website. The publication schedule is detailed in the Timeliness and punctuality section. While published every quarter, new orders data are included as part of the monthly construction output statistical bulletins, with releases increasingly promoted using ONS social media accounts.

Table 1 describes the following datasets that are published as part of the data tables each quarter. For a full list of regions, sector and type of work please see Annex 1.

Table 1: List of data tables published as part of new orders

Table number	Table title	Prices	Seasonal adjustment	Periodicity	Time series available
1	New Orders for Construction: Index Numbers by main contractors by sector	2005 constant prices	Seasonally adjusted	Quarterly and annual	1964 to present
2	New Orders for Construction: Volume by main contractors by sector	2005 constant prices	Seasonally adjusted	Quarterly and annual	1964 to present
3	New Orders for Construction: Volume by main contractors by sector	2005 constant prices	Non-seasonally adjusted	Quarterly and annual	1964 to present
4	New Orders for Construction: Value by main contractors by sector	Current prices	Non-seasonally adjusted	Quarterly and annual	1958 to present
5	New Orders for Construction: Value by main contractors by type of work	Current prices	Non-seasonally adjusted	Quarterly	1985 to present
6	New Orders for Construction: Value by main contractors by sub-national region and sector	Current prices	Non-seasonally adjusted	Quarterly	1985 to present
7	New Orders for Construction: Volume growth rates by main contractors by sector	2005 constant prices	Seasonally adjusted	N/A	N/A
8	New Orders for Construction: Volume growth rates, period on period by main contractors by sector	2005 constant prices	Seasonally adjusted	Quarterly and annual	1964 to present
9	New Orders for Construction: Volume growth rates, period on period a year ago by main contractors by sector	2005 constant prices	Seasonally adjusted	Quarterly and annual	1964 to present

How we review the data

Previous data are used to ensure the quality of the time series. For example, at the aggregate level (sector, region or type of work), checks are undertaken to ensure latest quarters are comparable as part of the time series in comparison to previous quarter values. If not, project-level data are queried with Barbour ABI to understand drivers behind movements in the data.

Other information

In addition to this Quality and Methodology Information report, monthly construction output releases include a Quality and methodology section within the statistical bulletin to aid user understanding of published estimates, alongside a user guide to aid the interpretation of estimates.

For further information on any aspect of the new orders, please contact the Construction team by email at construction.statistics@ons.gov.uk.

7 . Annex 1: Type of work and subnational breakdown collected on the new orders in construction

Sectors published within the new orders release

All new work can be split into two parts: new housing and all other work. These can be broken down as follows.

New housing includes:

- public new housing
- private new housing

All other work includes:

- infrastructure
- public other new work
- private industrial other new work
- private commercial other new work

Regions within the new orders release

- North East
- Yorkshire and The Humber
- East Midlands
- East of England
- London
- South East
- South West
- Wales
- West Midlands
- North West
- Scotland

Subsectors published within the new orders release

Total new work includes the following:

- public housing
- private housing
- infrastructure (further disaggregated into public and private infrastructure), which includes water, sewerage, electricity, roads, railways, harbours, and other
- other public non-housing, which includes other public industrial, schools and colleges, universities, health, offices, entertainment, garages, shops, agriculture, and miscellaneous
- private industrial, which includes factories, warehouses, and oil, steel and coal
- private commercial, which includes schools, universities, health, offices, entertainment, garages, shops, agriculture, and miscellaneous